REMARKS

The applicant thanks the Examiner for the thorough examination of the application. The specification has been amended to update priority information and to correct a minor error. No new matter is believed to be added to the application by this Response.

Entry Of Response

Entry of this Response under 37 C.F.R. §1.116 is respectfully requested because it places the application in condition for allowance. Alternately, entry is requested because it places the application in better form for appeal.

Status Of The Claims

Claims 1-4 are pending in the application and stand rejected.

Double Patenting Rejection

Claims 1 and 3 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 6 of U.S. Patent 6,717,638 of parent application no. 09/712,190. Applicant traverses.

A terminal disclaimer of U.S. Patent 6,717,638 is being filed concurrently with this paper. U.S. Patent 6,717,638 is thus removed as prior art to the

present invention. This rejection is overcome and withdrawal thereof is respectfully requested.

Rejection Under 35 U.S.C. §102(b) Over Nagata

Claims 1-4 are rejected under 35 U.S.C. §102(b) as being anticipated by Nagata (U.S. Patent 6,060,199). Applicant traverses.

The Present Invention And Its Advantages

The present invention pertains to a liquid crystal display having a color filter on TFT (COT) structure. The inventive liquid crystal display avoids misalignment caused by processing of the upper and lower substrates at different temperatures.

One of the many features of the present invention pertains to a color filter layer that overlaps only edge portions of the source and drain. Although the invention has many embodiments, instant claim 1 of the present invention states:

> 1. A liquid crystal display (LCD) device, comprising:
> a thin film transistor (TFT) formed on a substrate, the TFT having a gate, a source and a drain;
> a color filter layer on the TFT, and in direct contact with the source and the drain, wherein said contact is only at a portion where said color filter layer is overlapping only edge portions of the source and drain; and
> a pixel electrode formed above the color filter layer to be in electrical contact with the drain.

The overlap of the color filter layer of the present invention is illustrated by Figure 3C, which is reproduced below.

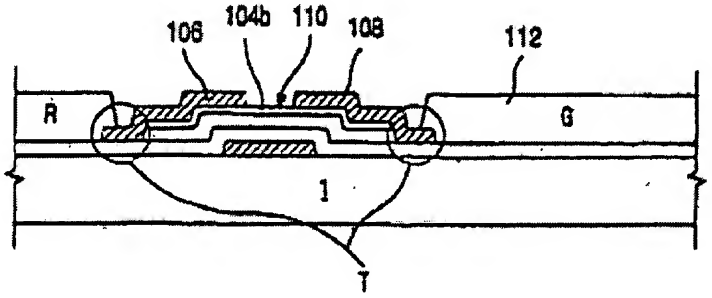

Fig 3C

Figure 3C of the present invention shows a substrate 1 over which is a TFT having source electrode 106 and drain electrode 108. A channel portion 110 over the gate exposes the doped amorphous silicon layer 104b. The color filter layer 112 is divided into a green portion G and a red portion R. Regions T clearly show that the red portion R only overlaps the edge of the source electrode 106, and that the green portion G only overlaps the edge of the drain electrode 108.

Distinctions Of The Invention Over Nagata

Nagata pertains to a color filter substrate and method for producing the same. Nagata fails to disclose or suggest a color filter layer that only overlaps the edges of the source and drain electrodes.

In making his rejection, the Examiner turns to Figures 3A and 3B of Nagata. Figure 3A of Nagata is reproduced below.

FIG. 3A

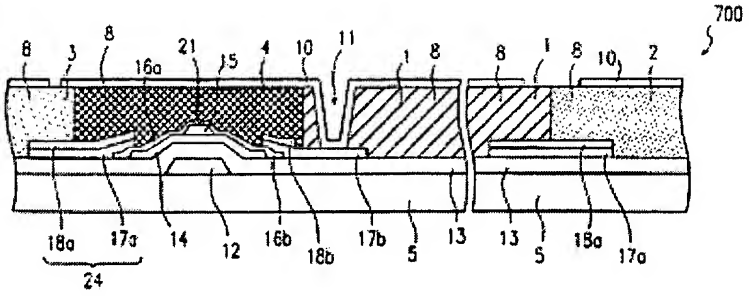

Figure 3A of Nagata shows a base plate 5 over which is a TFT 21 having a source electrode 16a, a gate electrode 12 and a drain electrode 16b. Over the edge of the source electrode 16a is a source signal line 24 (with transparent conductive layer 17a and metal layer 18a). Over the edge of the drain electrode is transparent conductive layer 17b and metal layer 18b. That is, the edges of the source electrode 16a and drain electrode 16b are occluded by metal layers.

Figure 3A of Nagata shows an interlayer insulative layer 8 that covers the entire structure with the exception of the contact hole 11. The insulative layer 8 is divided into a blue color portion 3, a black color portion 4, a red color portion 8 and a green color portion 2. If the source and drain electrodes 16a and 16b are considered, then the black color portion 4 covers not the edge, but the majority of the source and drain electrodes 16a and 16b. The edges of the drain electrodes 16a and 16b are covered by metal layers 17a, 18a, 17b and 18b, and there is thus no contact between any portion of the colored interlayer insulative layer 8 and these occluded edges.

On the other hand, one may consider the metal layers 17a, 18a, 17b and 18b to be part (or extensions) of the source electrode 16a and the drain

electrode 16b. In this case, the red color portion 8 not only covers the edge of the metal layer 17b, but also the area away from the edge at the other side of the contact hole 11. Also, the blue color portion 3 covers almost half of the metal bilayer 24 formed from metal layers 18a/17a in a fashion that can in no way be construed as covering the edge of this structure.

In contrast, claim 1 of the present invention recites: "a color filter layer on the TFT, and in direct contact with the source and the drain, wherein said contact is only at a portion where said color filter layer is ***overlapping only edge portions of the source and drain***." (Emphasis added). Figures 3A and 3B of Nagata clearly fail to disclose or suggest these features.

Nagata thus fails to anticipate claims 1 and 3 of the present invention, in which the color filter layer only contacts edge portions of the source and drain. Claims depending upon claim 1 are patentable for at least the above reasons.

This rejection is overcome and withdrawal thereof is respectfully requested.

Information Disclosure Statement

The Examiner is thanked for considering the Information Disclosure Statement filed January 15, 2004 and for making the initialed PTO-1449 form of record in the application in the Office Action mailed November 15, 2004.

Foreign Priority

The Examiner is respectfully requested to acknowledge foreign priority in the next official action.

The Drawings

The Examiner is respectfully requested to indicate whether the drawing figures are acceptable in the next official action.

Conclusion

The Examiner's objection and rejections have been overcome, obviated or rendered moot. No issues remain. The Examiner is accordingly respectfully requested to place the application in condition of allowance and to issue a Notice of Allowability.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert E. Goozner, Ph.D. (Reg. No. 42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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